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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/570,025	03/01/2006	Takeshi Karato	1600-0170PUS1	1100
2292 7590 11/19/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
NUTTER, NATHAN M				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
11/19/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/570,025

**Applicant(s)**

KARATO ET AL.

**Examiner**

Nathan M. Nutter

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 03-06, 05-06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, and species 1), claims 1-11, 17 and 18 in the reply filed on 23 October 2008 is acknowledged. The traversal is on the ground(s) that "all four of the invention groups identified by the Examiner are closely related to one another and accordingly they could be examined together in this application without undue burden on the PTO."

This is not found persuasive because each Group requires separate consideration which with four such groups creates a burden upon the Patent Office.

The requirement is still deemed proper and is therefore made FINAL.  
Claims 12-16 are withdrawn as being drawn to non-elected inventions.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for conjugated diene rubber compositions, does not reasonably provide enablement for any type of "compound having in the molecule at least one functional group selected from the group consisting of a >C=O group, a >C=S group, an amino group, an imino group, an epoxy group, an alkanoxyl group and a halogen." The specification does not enable any person skilled

in the art to which it pertains, or with which it is most nearly connected, to make any use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be "commensurately enabling [regarding the scope of the claims]." See *Ex Parte Kung*, 17 USPQ2d 1545, 1547 (Bd. Pat. Appl. Inter. 1990). Otherwise **undue experimentation** would be involved in determining how to practice and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of claims 1-11, 17 and 18 can be used as claimed and whether claims 1-11, 17 and 18 meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. Pat. Appl. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400 (Fed. Cir. 1988). Upon applying this test to claims 1-11, 17 and 18, it is believed that undue experimentation **would** be required because:

(a) *The quantity of experimentation necessary* is **great** since claims 1-11, 17 and 18 read on any type of "compound having in the molecule at least one functional group selected from the group consisting of a >C=O group, a >C=S group, an amino group, an imino group, an epoxy group, an alkanoxyl group and a halogen," such as proteins, polypeptides, polysaccharides, polytetrafluoroethylene, polyepoxides, etc..

(b) There is **no direction or guidance presented** for making functionalized nonconjugated diene resin blends comprising any type of "compound having in the molecule at least one functional group selected from the group consisting of a >C=O group, a >C=S group, an amino group, an imino group, an epoxy group, an alkanoxyl group and a halogen."

(c) There is an **absence of *working examples*** concerning making functionalized nonconjugated diene resin blends comprising any type of "compound having in the molecule at least one functional group selected from the group consisting of a  $>C=O$  group, a  $>C=S$  group, an amino group, an imino group, an epoxy group, an alkanoxyl group and a halogen."

In light of the above factors, it is seen that undue experimentation would be necessary to make and use the invention of claims 1-11, 17 and 18.

Claims 1-11, 17 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The recitations in claim 1 of "such that at least three conjugated diene polymer chains are bonded," (lines 4-5), "having a structure such that it has been allowed to react," (lines 11-12), "such that...a part...is a functional group capable of reacting," (lines 19-20 and 26-27) fail to define what is necessary to achieve the desired results, only that the compounds or constituents are "capable of reacting," "allowed to react," or possess undisclosed structures (lines 4-5).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11, 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation in claim 1 of "having a structure such that it has been allowed to react" fails to define with any degree of particularity what the metes and bounds of such structures might be. As such, the claims are deemed to be vague and confusing. The term "such that" in that instance and, as recited at lines 11, 19, 26, et al. of the claim 1 text renders the claims as vague and confusing since it is not clear what is being claimed, since the structures are defined by being "capable of reacting" or "allowed to react." The structures are not shown nor described to any particularity.

The recitation of "capable of reacting" in each of claims 1, 4, 5 and 6, renders the claims as vague and confusing since the actual structure necessary for the reaction is not shown nor described with any particularity.

Claim 17 is deemed to be indefinite in the recitation "obtainable." The claim is indefinite if undue experimentation is involved to determine boundaries of protection. This rationale is applicable to polymer "obtainable" by a stated process because any variation in any parameter within the scope of the claimed process would change the polymer produced. One who made or used a polymer made by a process other than the process cited in the claim would have to produce a polymer using all possible parameters within the scope of the claim, and then extensively analyze each product to

determine if this polymer was obtainable by a process within the scope of the claimed process. See *Ex parte Tanksley*, 26 USPQ 2d 1389.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasagawa et al (US 6,767,969) taken in combination with Watanabe et al (US 4,657,965).

The reference to Sasagawa et al teaches the manufacture of a terminal modified conjugated diene polymer, as herein recited, that may comprise a weight average molecular weight of 60,000 to 600,000, within the range recited herein, and may have carbonyl, amido, amino, imino, pyridyl, epoxy, an alkoxy silicon, halide, and other functional end groups. Note the paragraph bridging column 3 to column 4 for the molecular weights and column 6 (lines 4-27) for the functional groups. The reference teaches the blending of these polymers with other diene "polymers which may be functional group-modified rubbers." Note column 7 (lines 52-65) where the reference teaches the blending of two elastomers. The diene/vinyl aromatic monomer percentages are shown at column 4 (lines 4-21). The vinyl bond content is shown at the paragraph bridging column 2 to column 3. the inclusion of silica and carbon black is

shown at the paragraph bridging column 8 to column 9. Use in automobile parts, which is deemed to include tires, is taught at column 9 (lines 29-43). Further, a skilled artisan would know of uses for compositions of diene rubbers to include tires. Further, note column 1 (lines 9-17).

The reference fails to teach the polyorganosiloxane bonded nonconjugated diene rubber in the rubber blend.

The reference to Watanabe et al teaches the manufacture of the polyorganosiloxane elastomer resin employed herein. Note column 2 (lines 15-41) for the polyorganosiloxane, identical to that recited herein. The conjugated diene polymer is shown at the paragraph bridging column 2 to column 3 and column 3 (lines 56-68). The addition of filler, including silica and carbon black, is shown at column 4 (lines 27-47).

Since Sasagawa et al show the use of functionalized rubber blends, and that those blends may include rubbers functionalized with carbonyl, amido, amino, imino, pyridyl, epoxy, an alkoxysilicon, halide, and other functional end groups, subsequent use of the rubber of Watanabe et al in the composition for the purpose, as taught therein, making a rubber composition "capable of being vulcanized with any of the vulcanizers," column 1 (lines 54 et seq.), would be prima facie obvious. Nothing unexpected has been shown on the record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan M. Nutter whose telephone number is 571-272-1076. The examiner can normally be reached on 9:30 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nathan M. Nutter/  
Primary Examiner, Art Unit 1796

nmn

13 November 2008